Appl. No. To be Assigned; Filed: January 21, 2004
Dkt. No. 1875.0960002; Group Art Unit: To be Assigned
Inventor: Arya Reza Behzad; Tel: 202/371-2600
Title: Adjustable Bandwidth High Pass Filter for Large Input Signal, Low Supply Voltage Applications

FIG. 1A

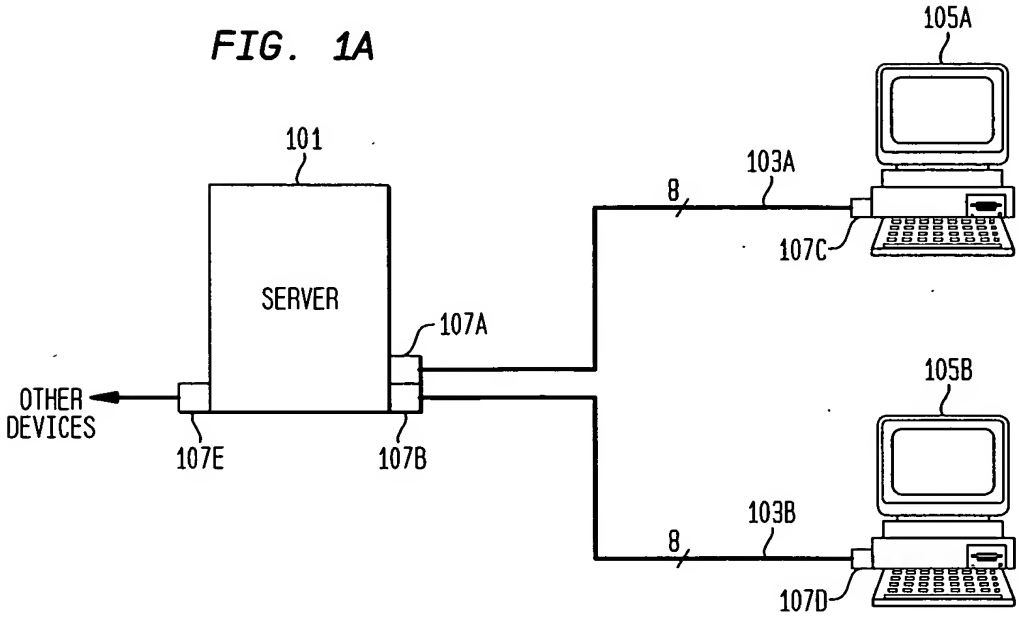

FIG. 1B

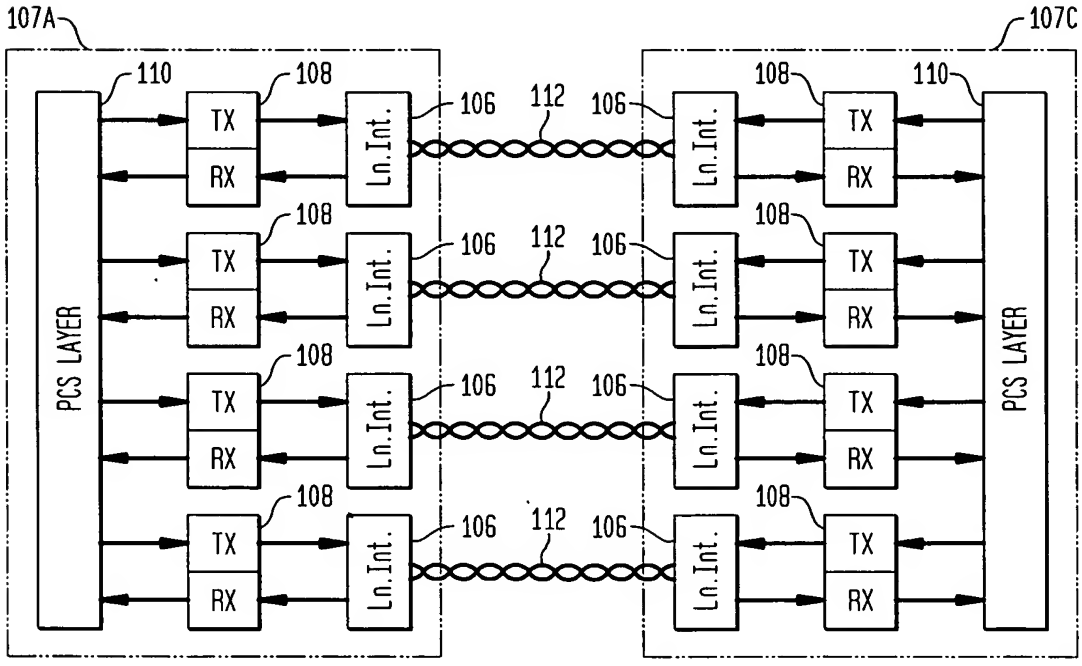

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FIG. 2

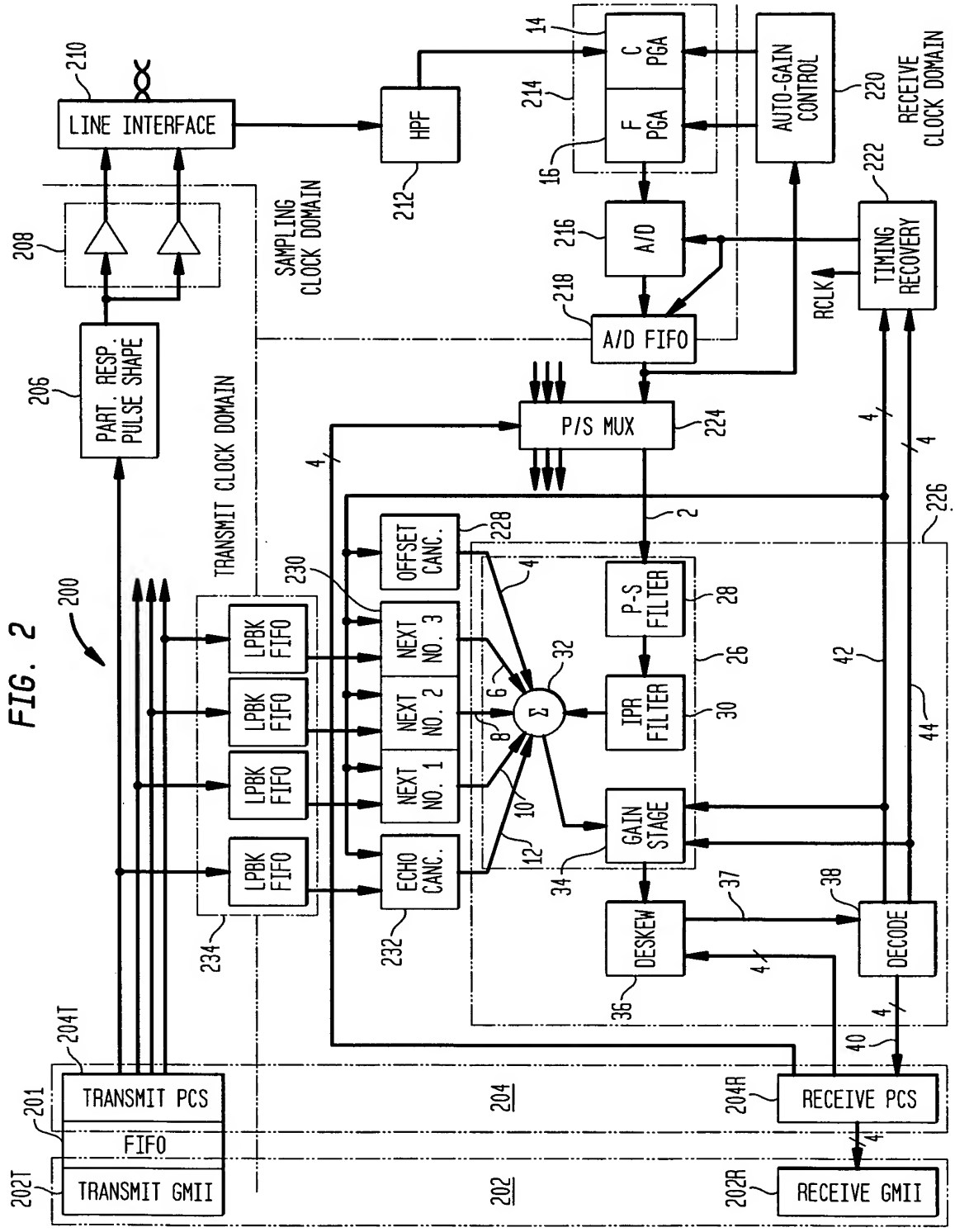

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FIG. 3

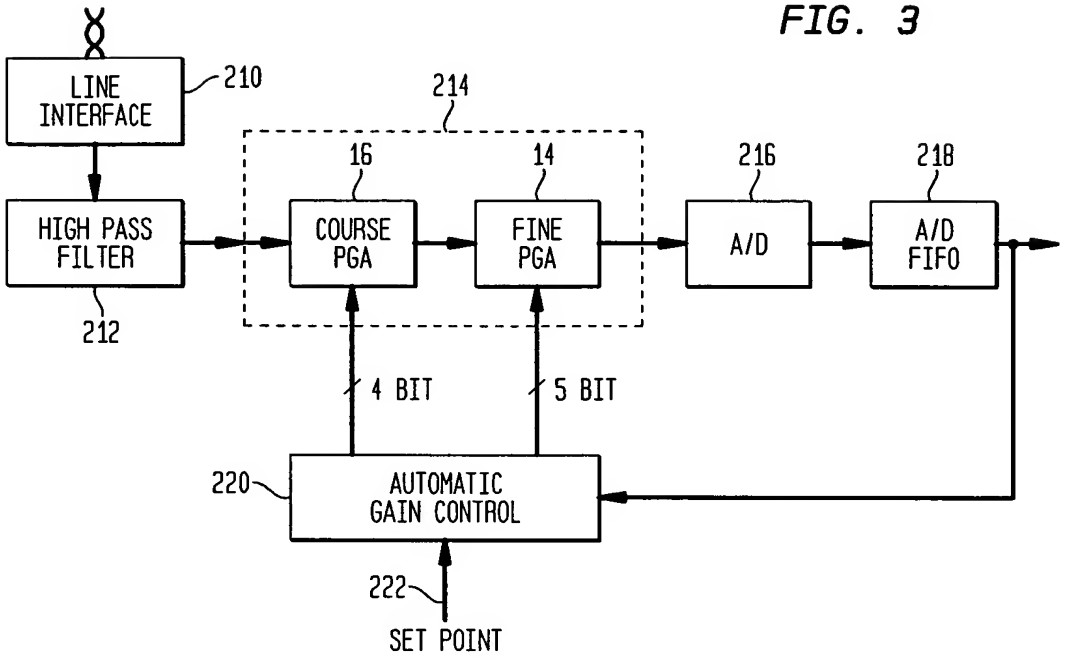

FIG. 4

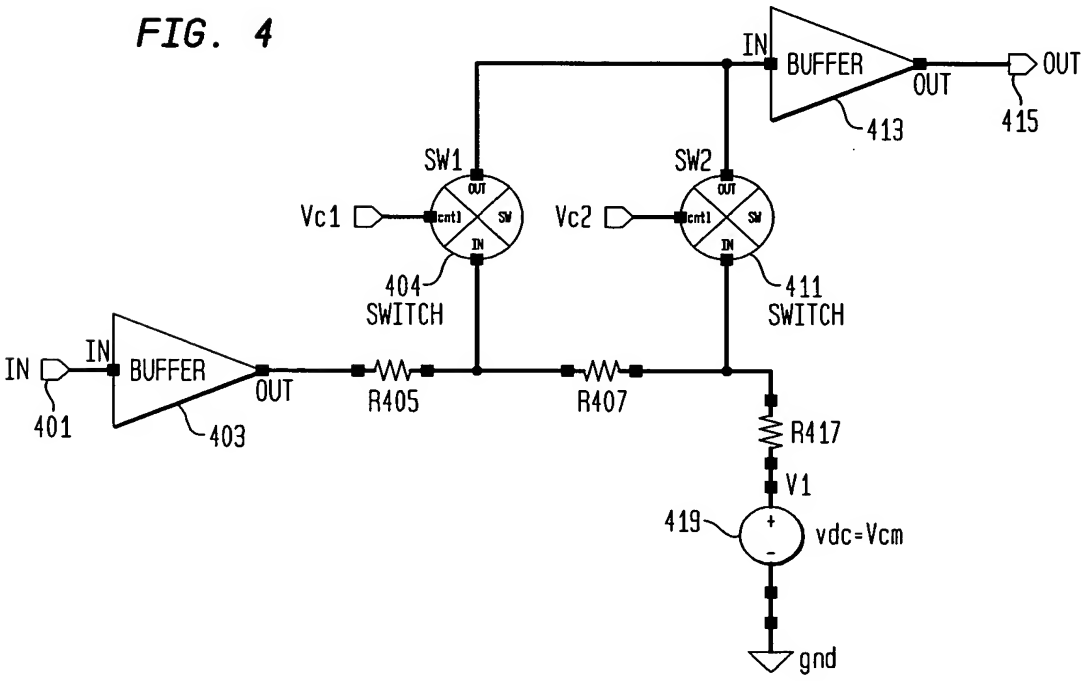

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FIG. 5

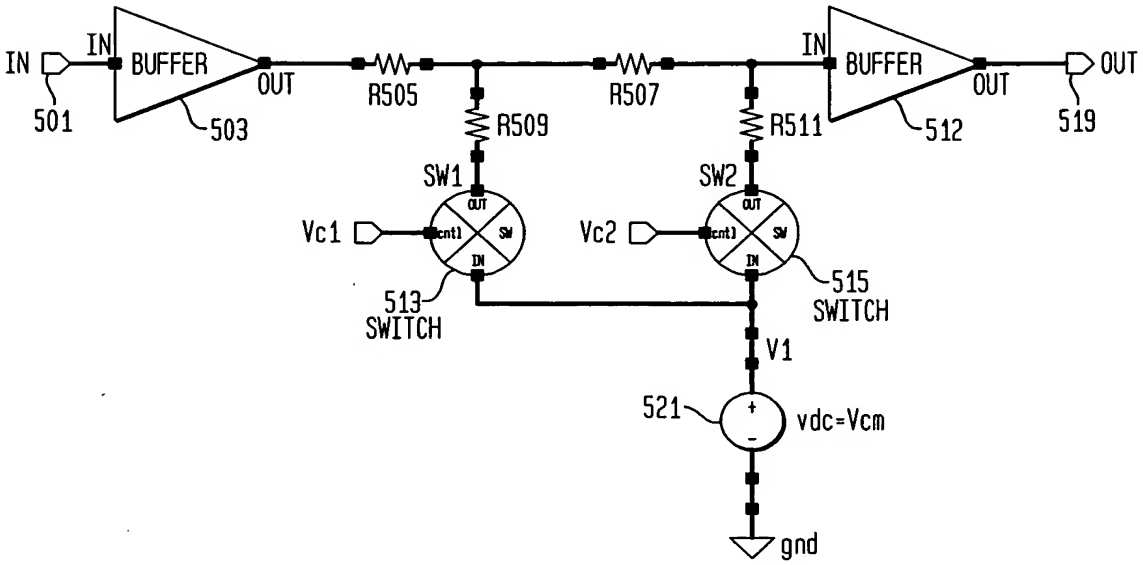

FIG. 6

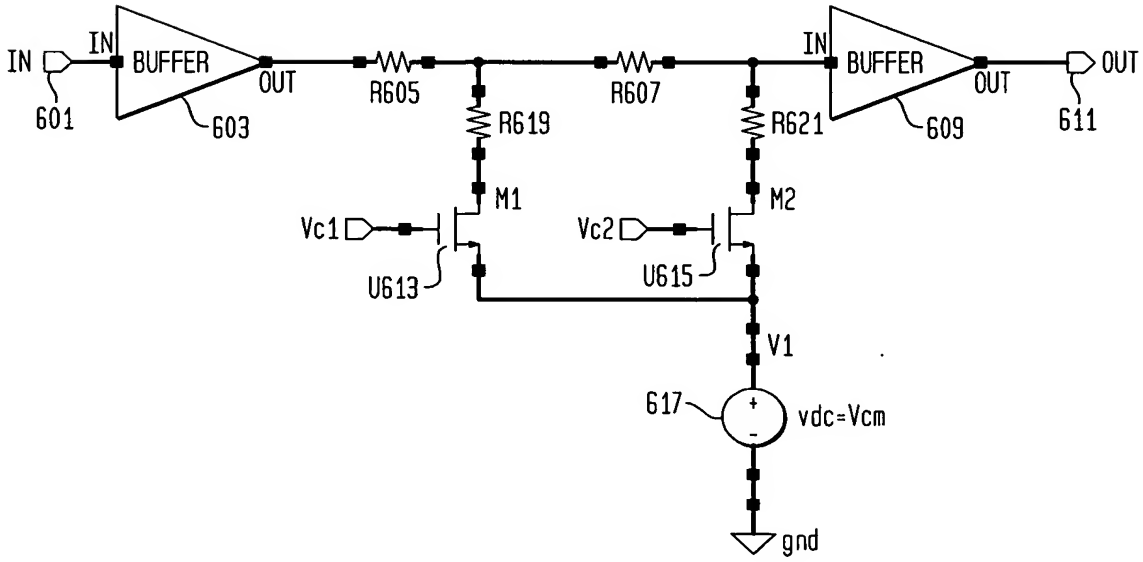

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FIG. 7

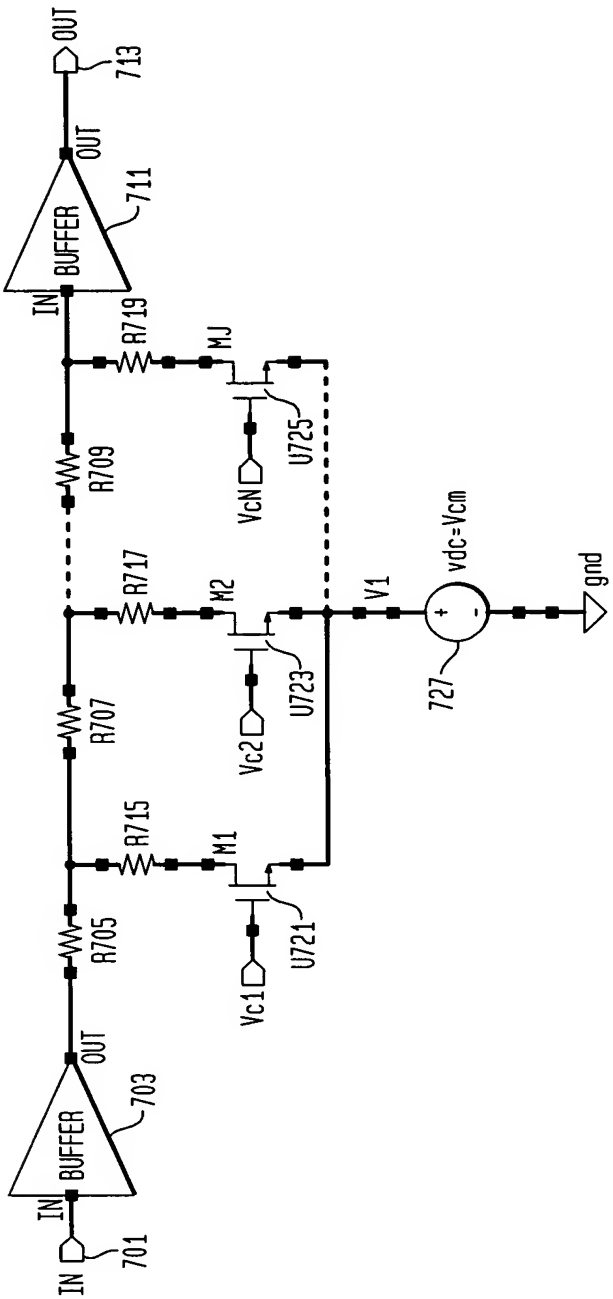

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FIG. 8

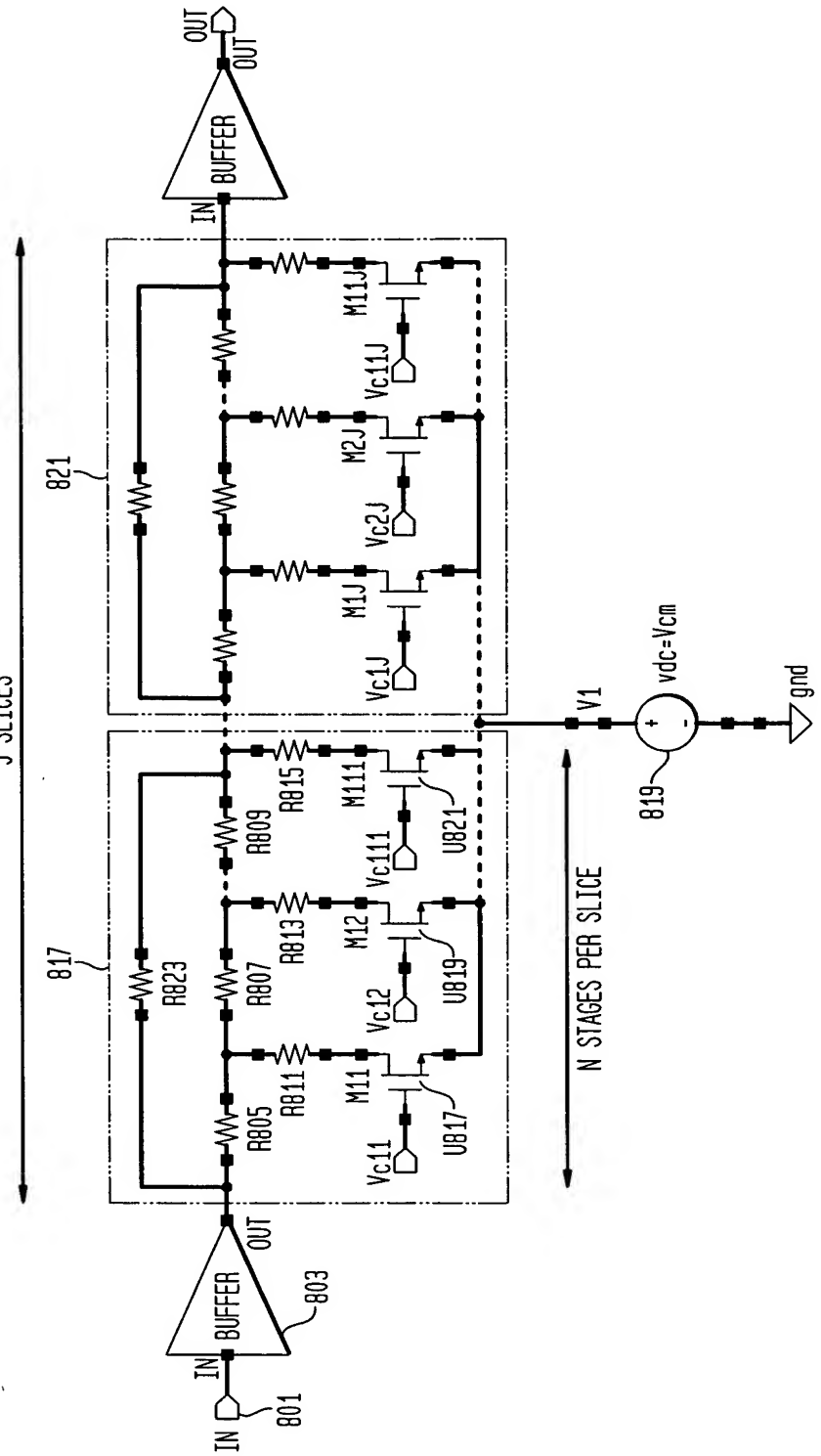

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FIG. 9
(PRIOR ART)

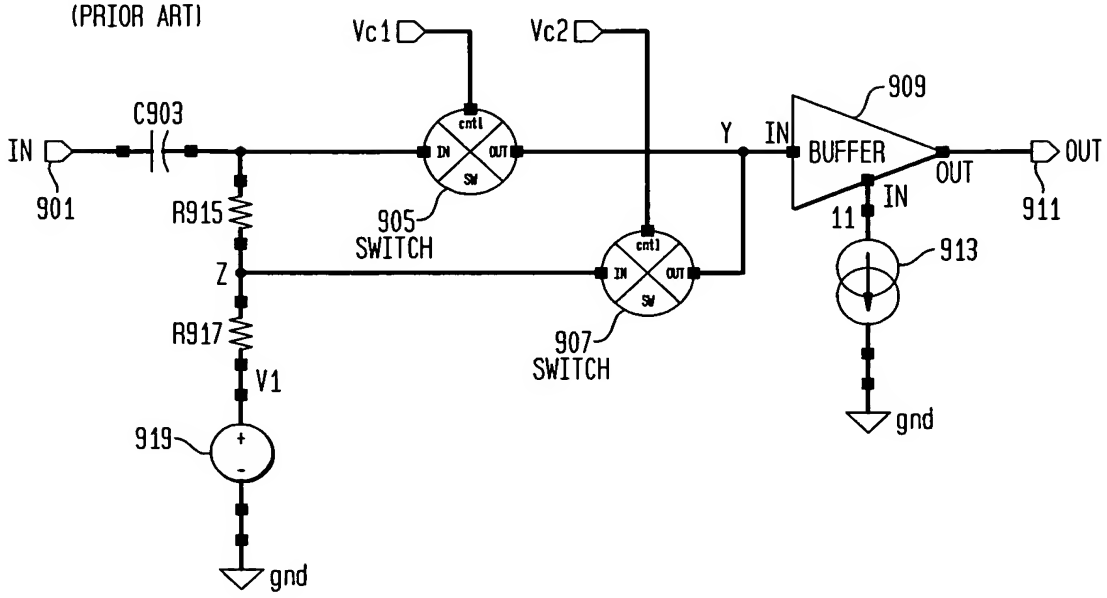

FIG. 10
(PRIOR ART)

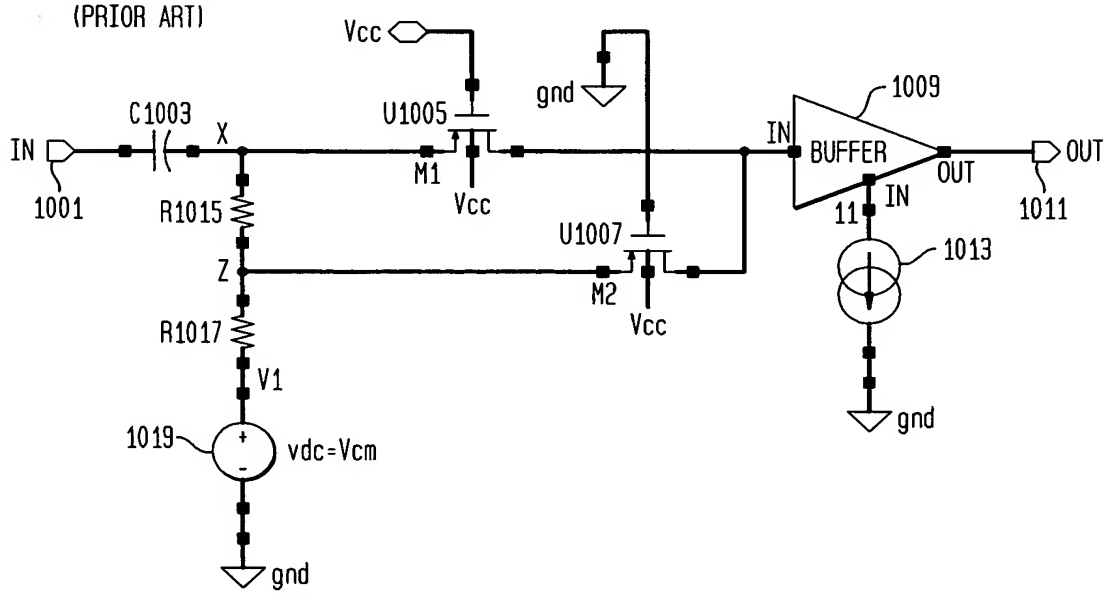

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FIG. 11

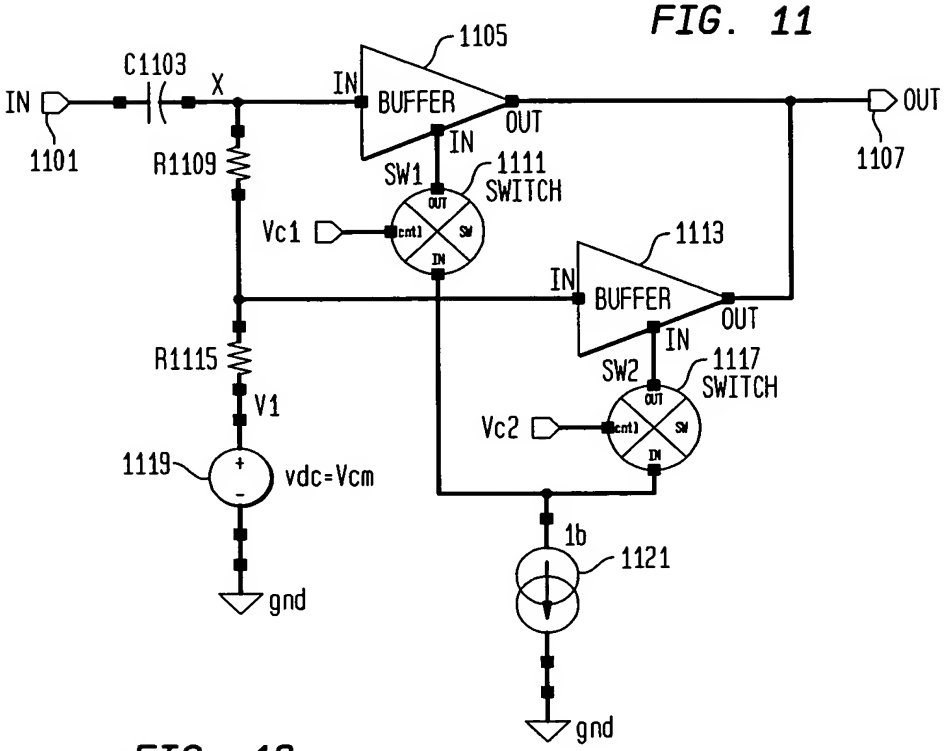

FIG. 12

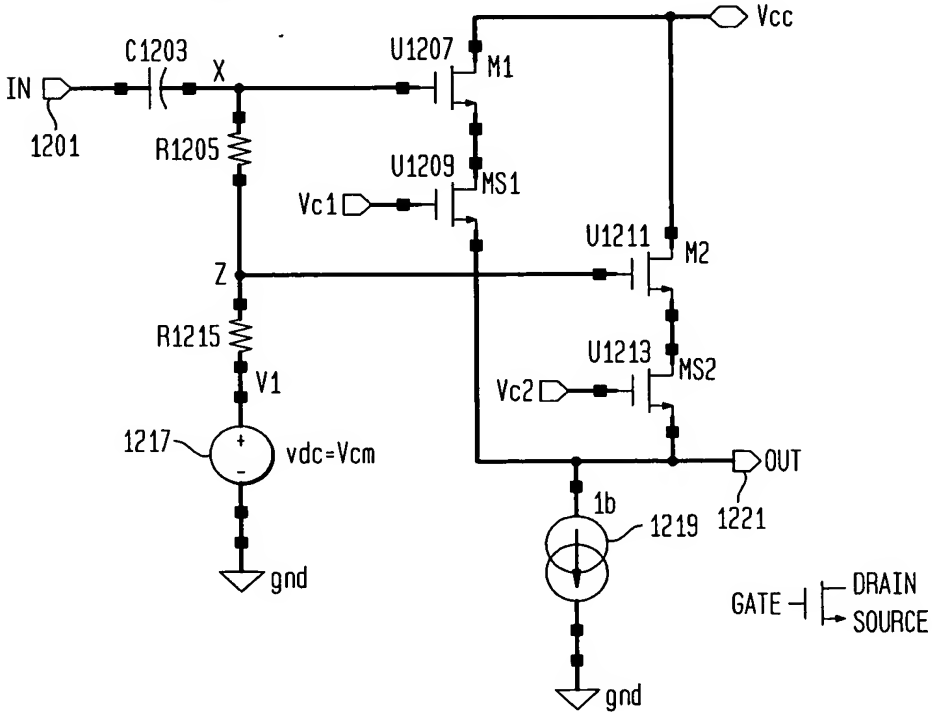

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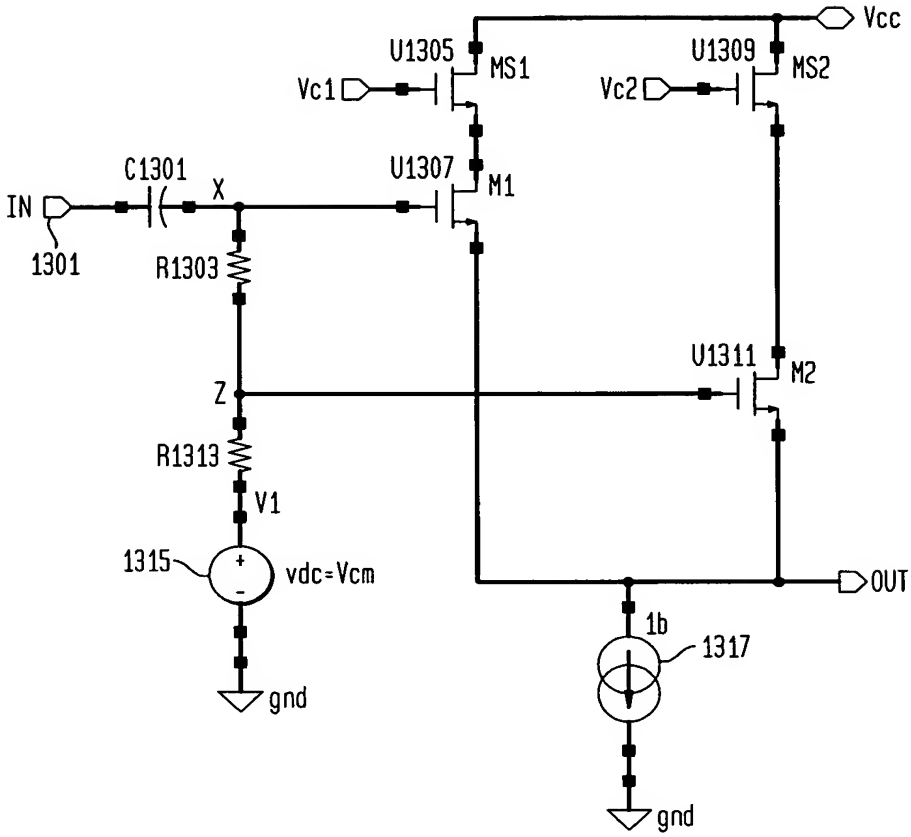
FIG. 13



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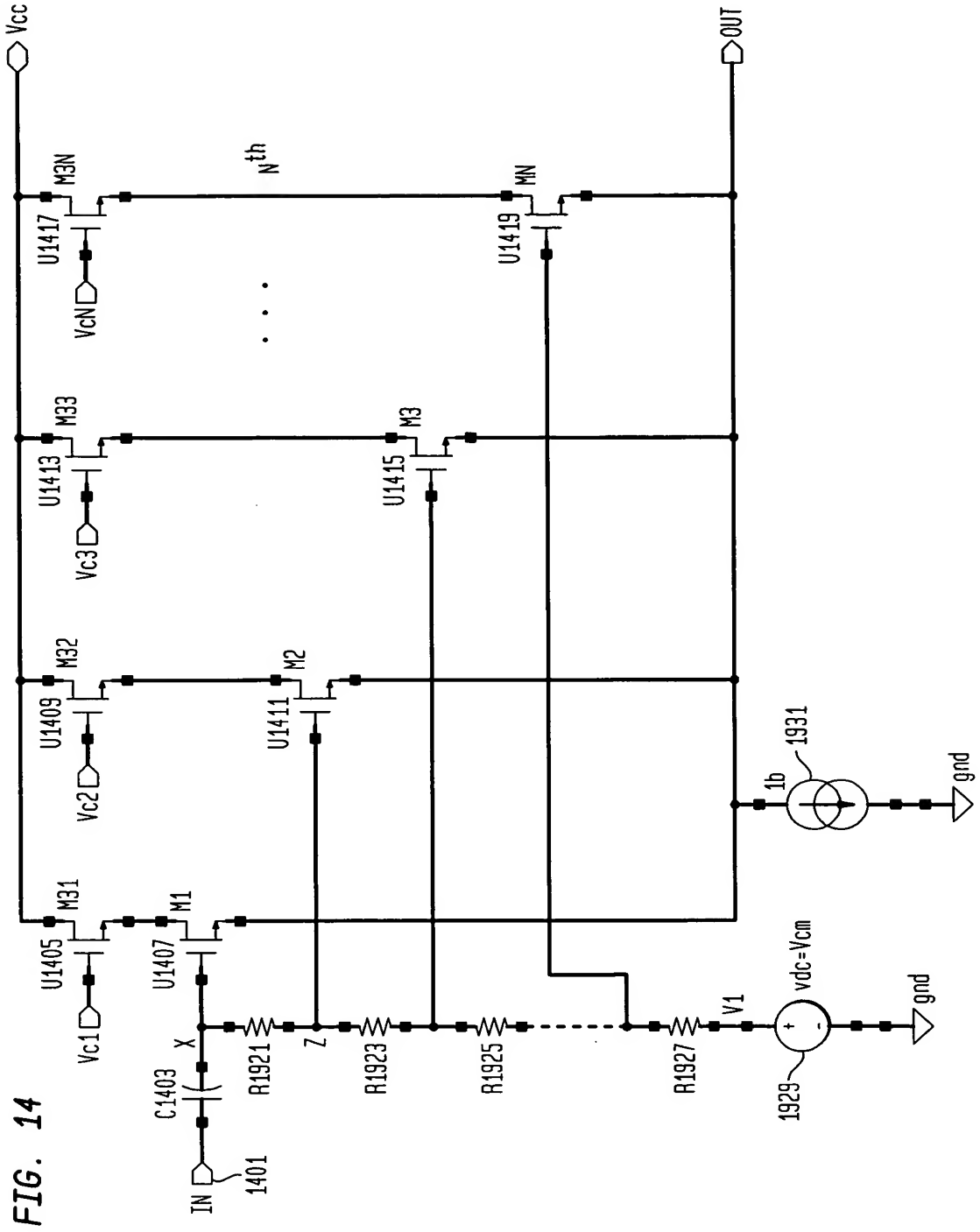

FIG. 14

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FIG. 15

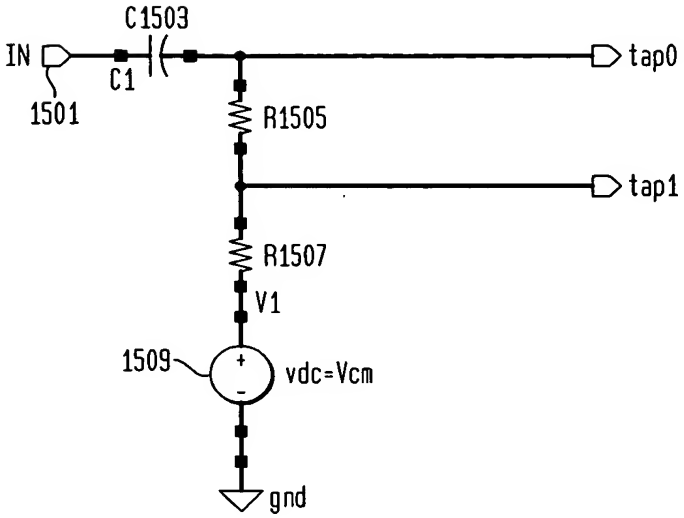

FIG. 16

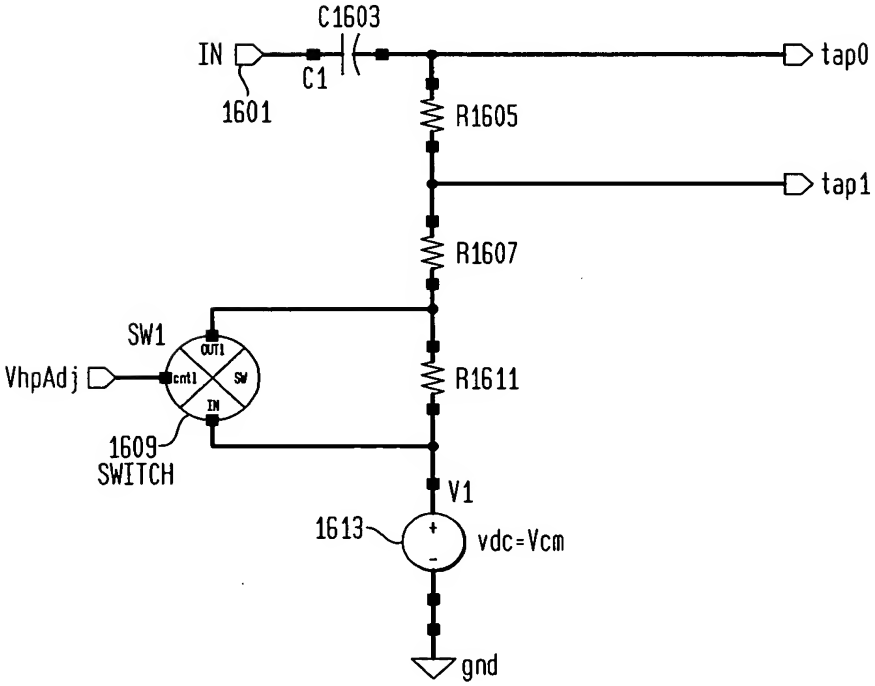

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FIG. 17

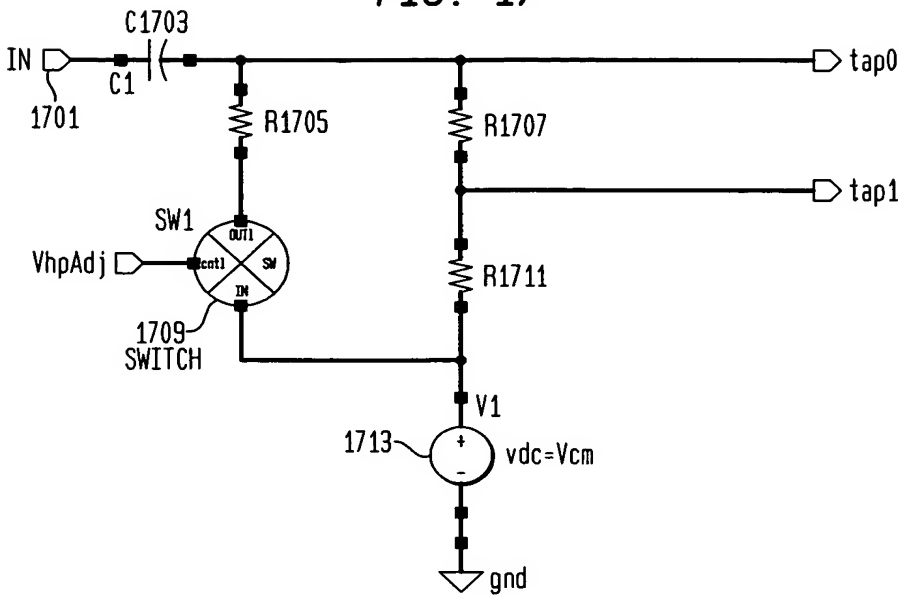
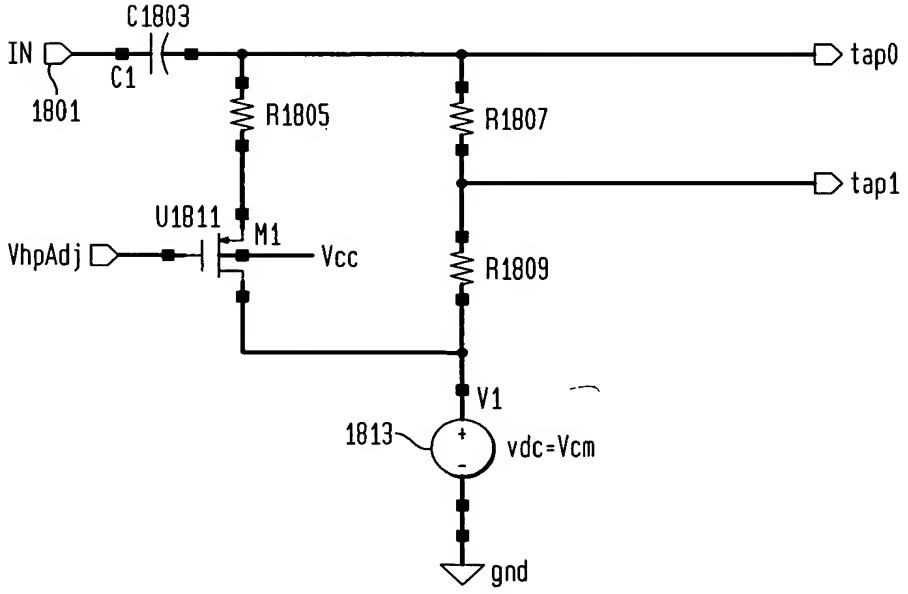


FIG. 18



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Inventor: Arya Reza Behzad; Tel: 202/371-2600
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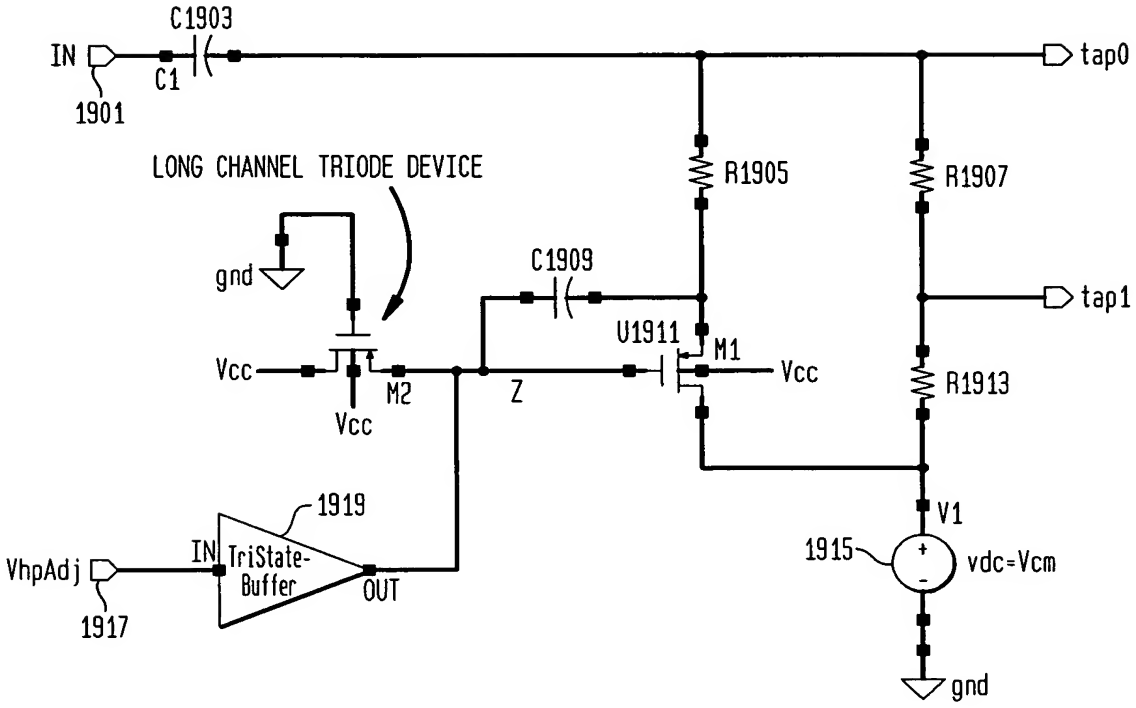
FIG. 19



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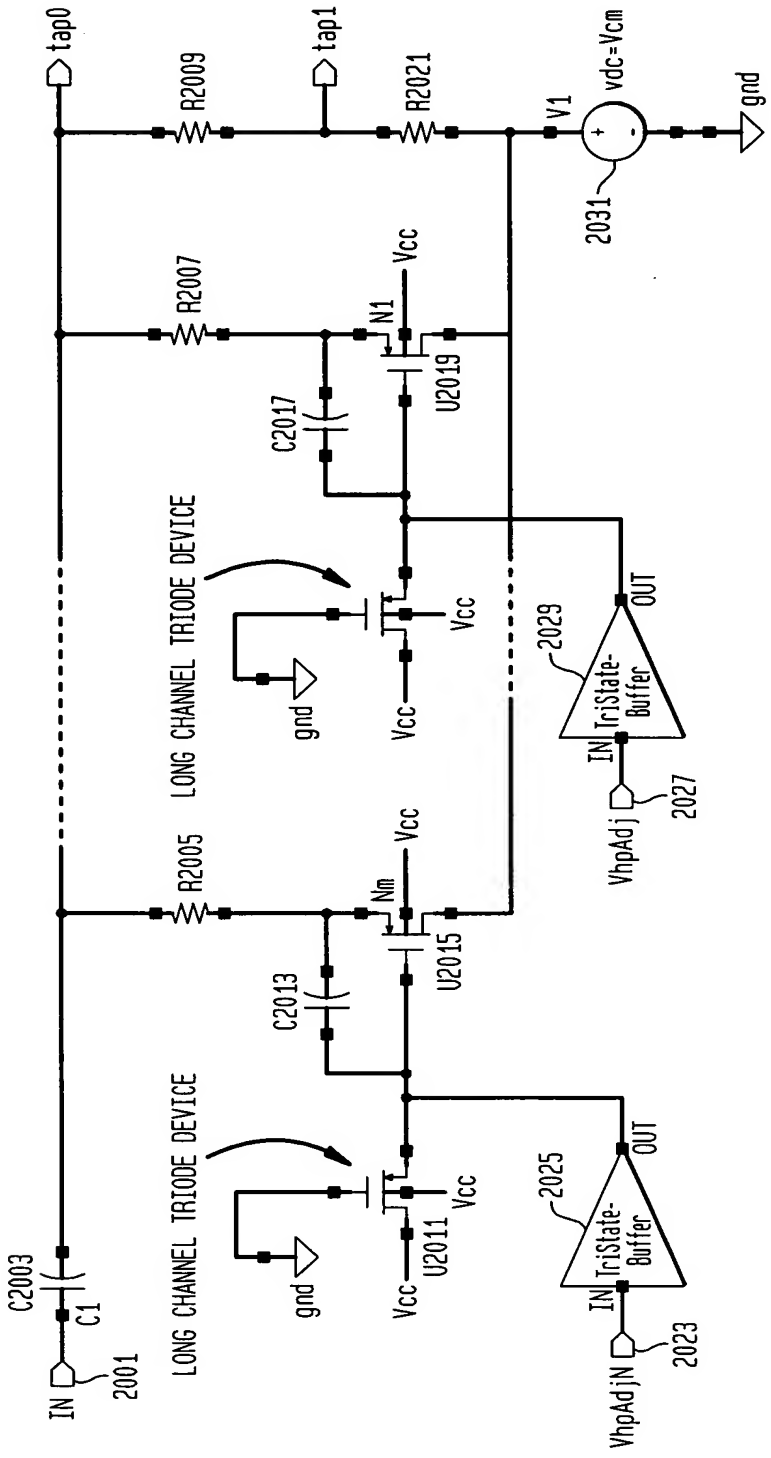

FIG. 20

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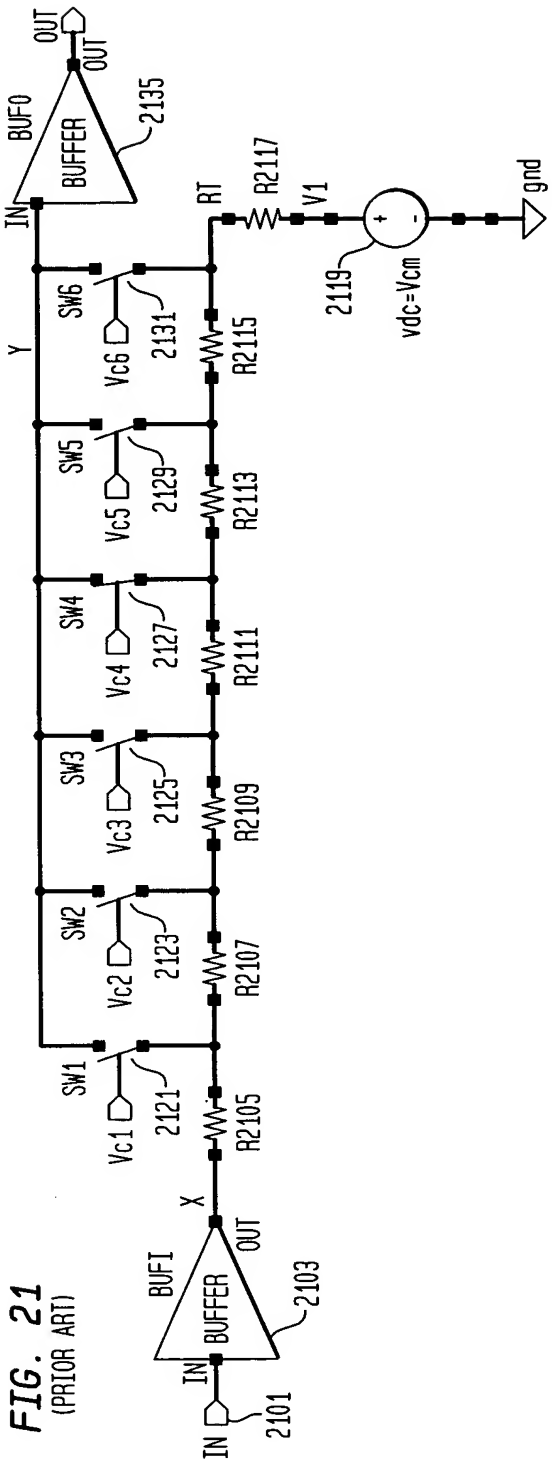

FIG. 21
(PRIOR ART)

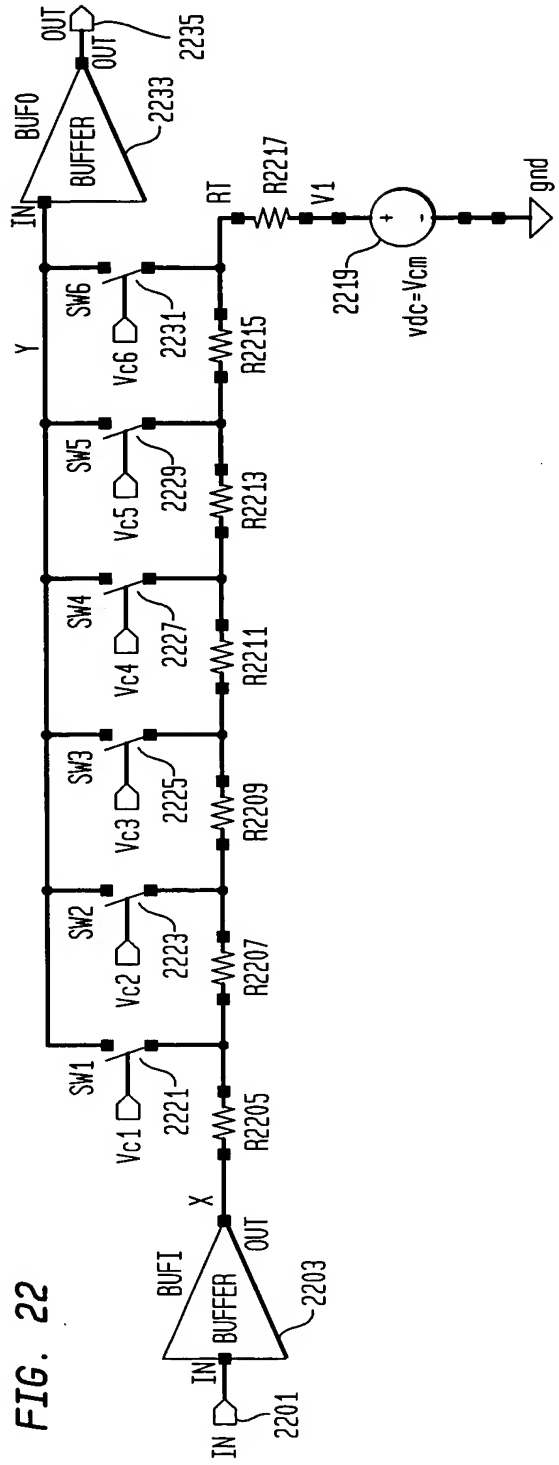

FIG. 22

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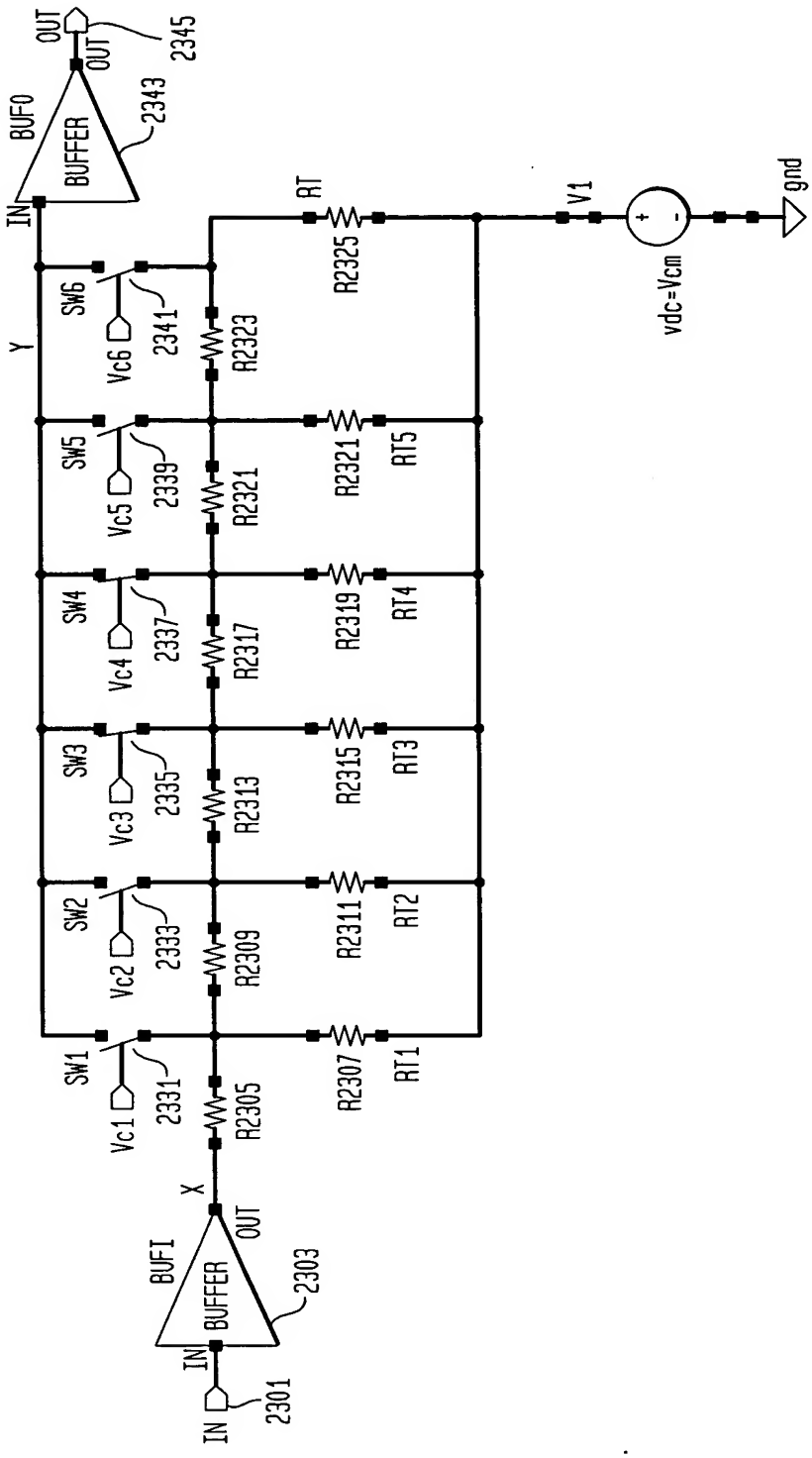
FIG. 23



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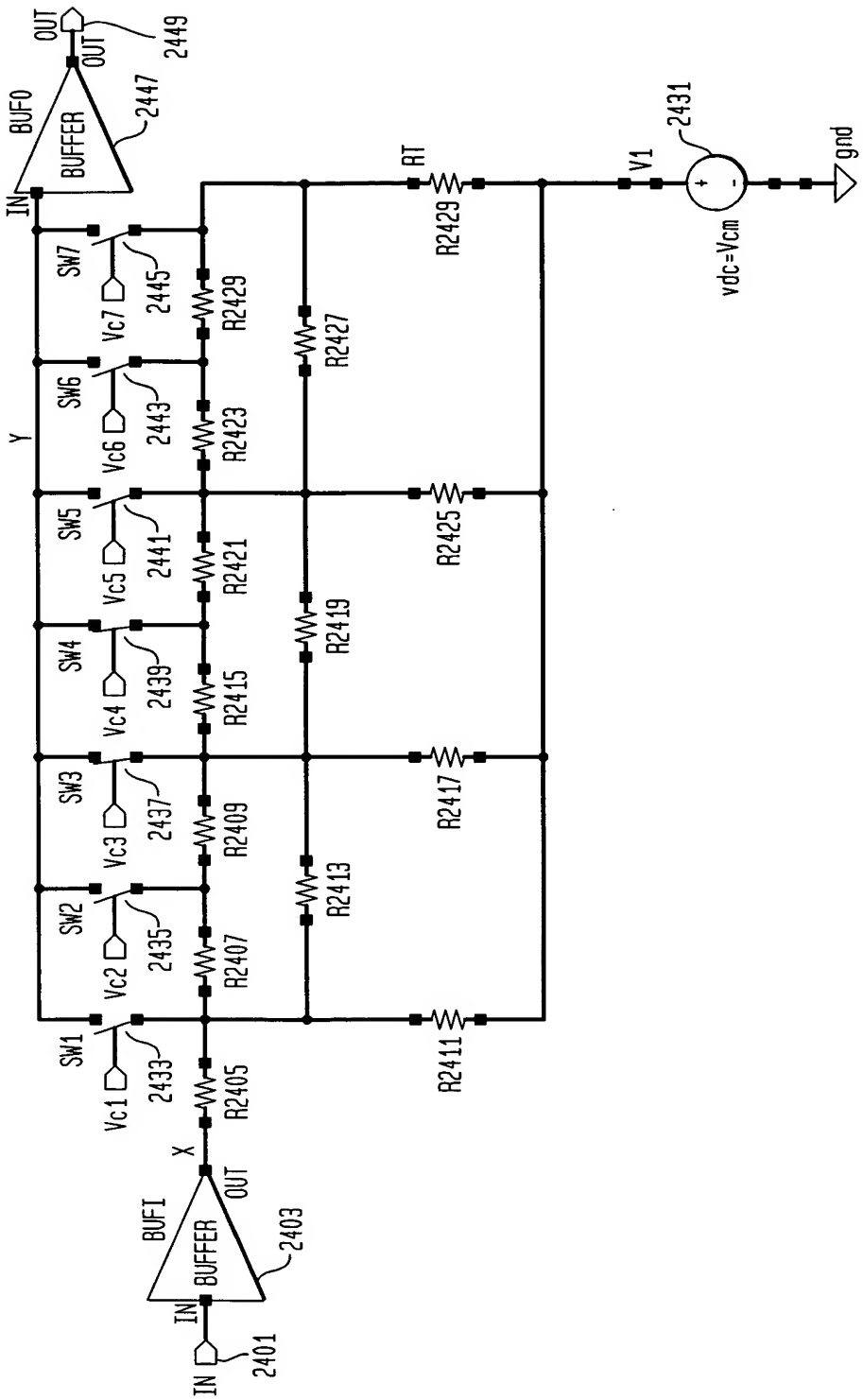

FIG. 24

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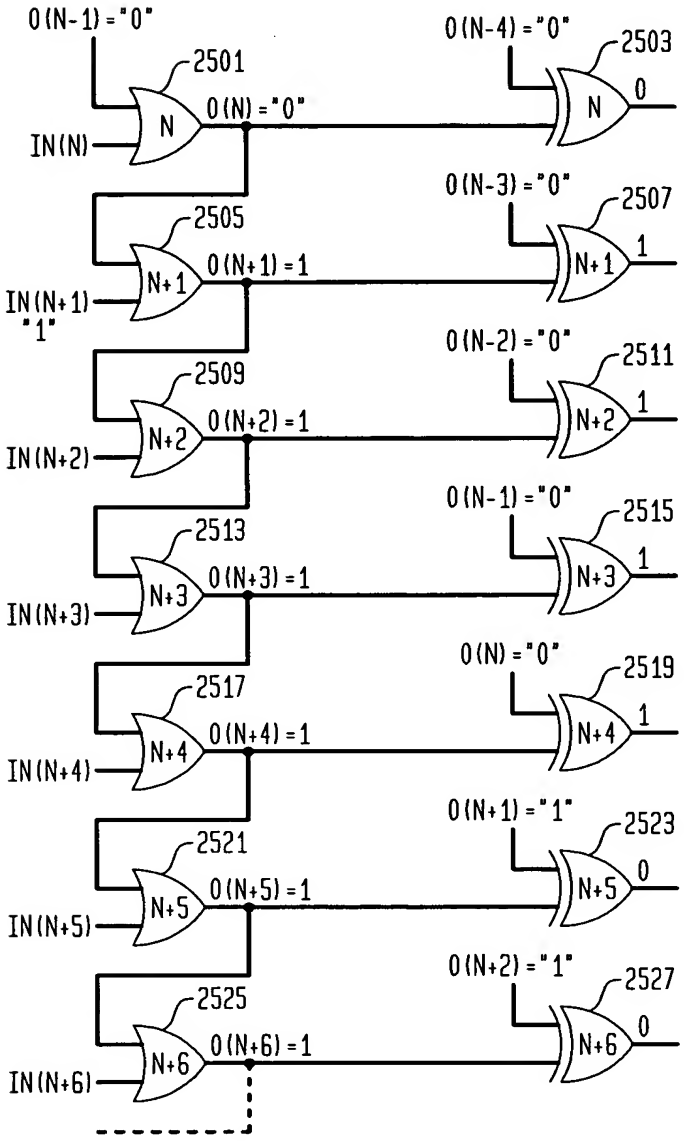
FIG. 25



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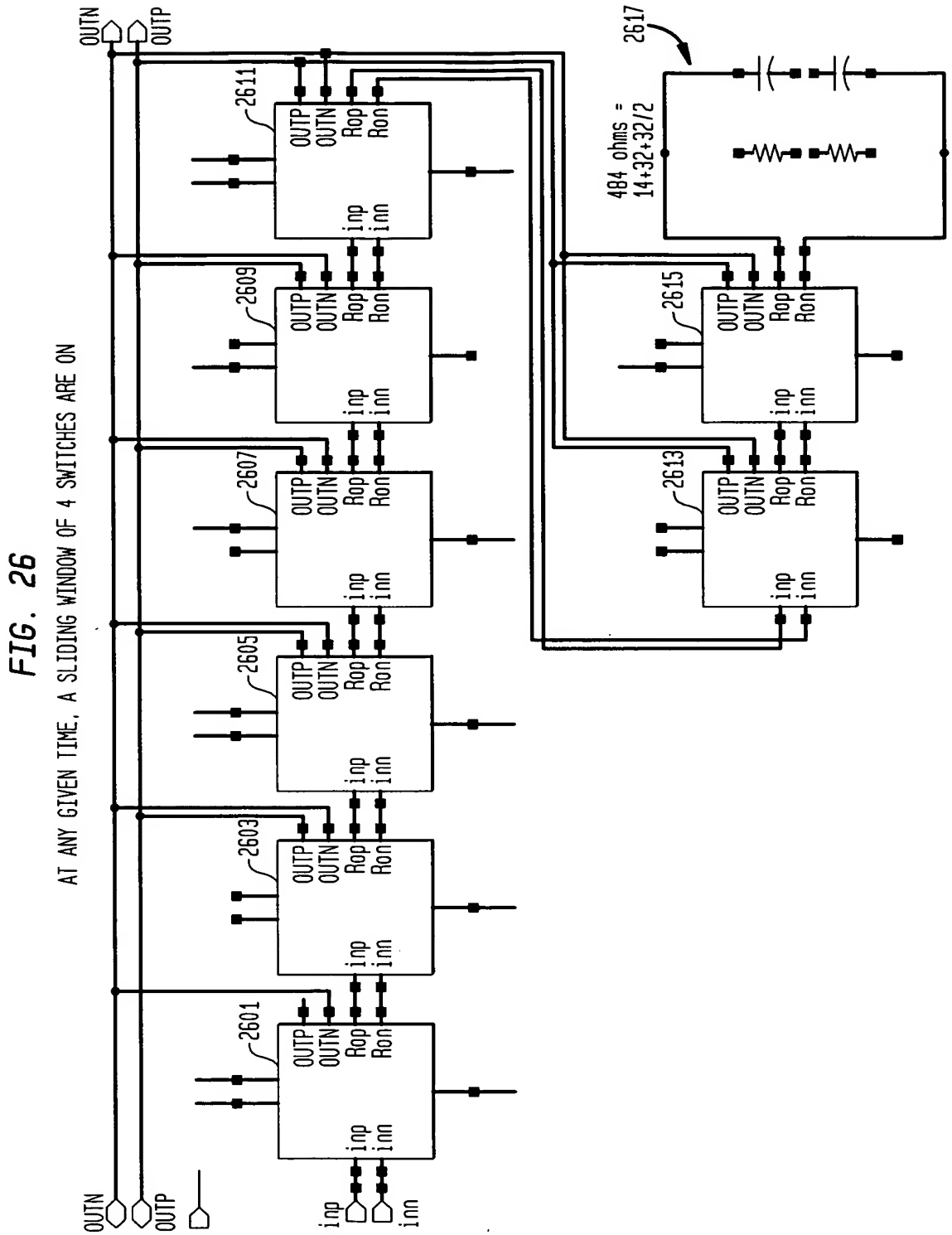

FIG. 26

AT ANY GIVEN TIME, A SLIDING WINDOW OF 4 SWITCHES ARE ON

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SWITCH SIZING:
N: w=1.8μ, L=0.25μ, m=2
P: w=2μ, L=0.25 μ, m=8

FIG. 27

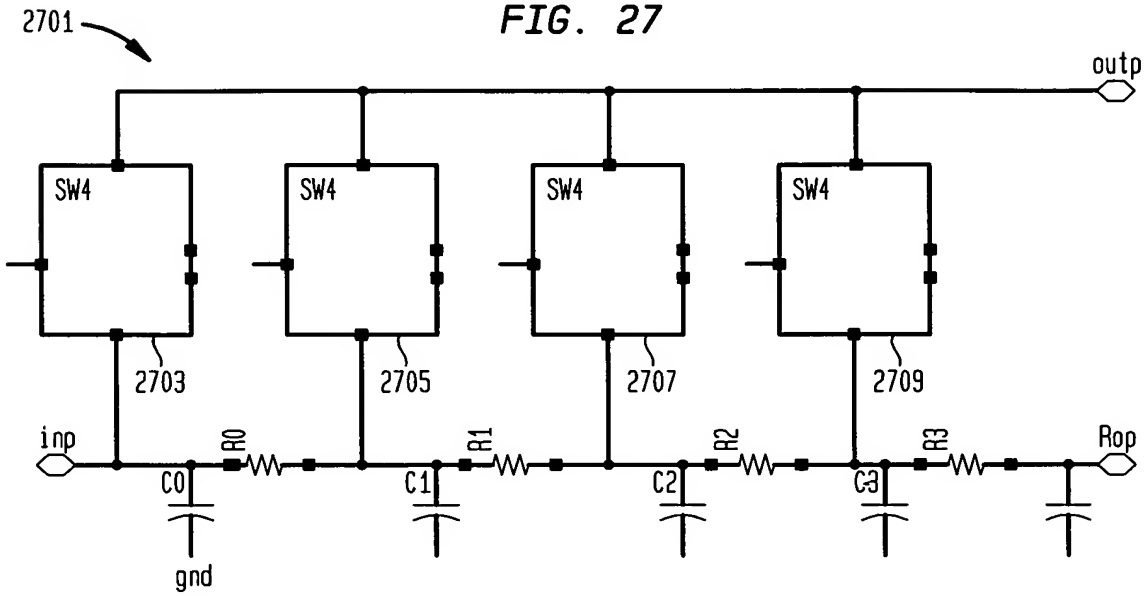

FIG. 28

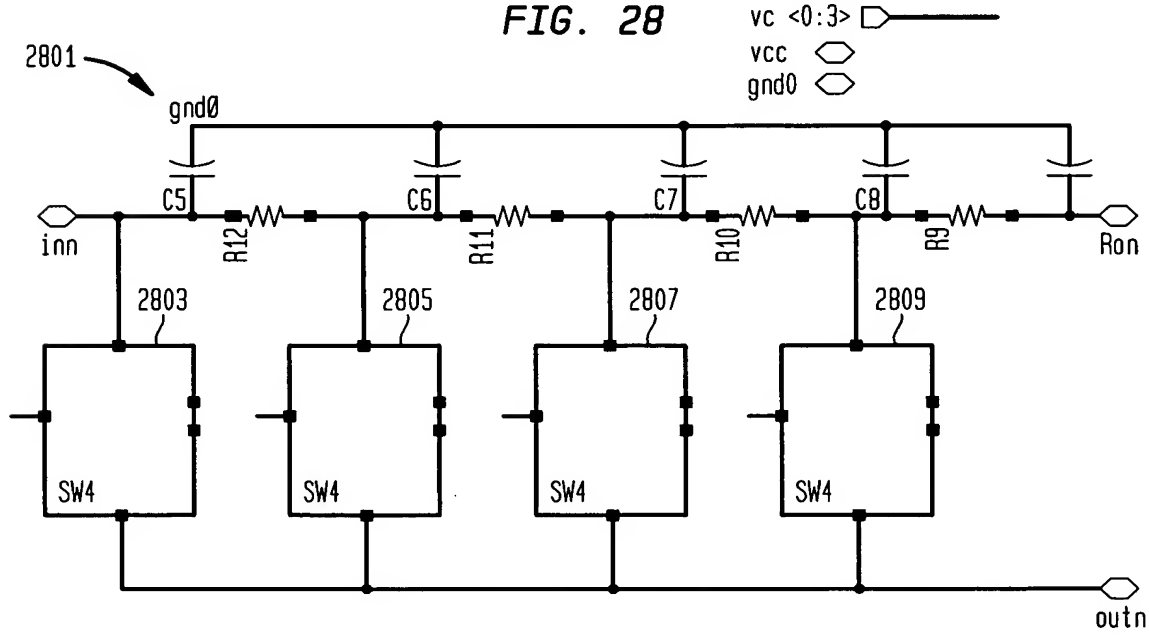

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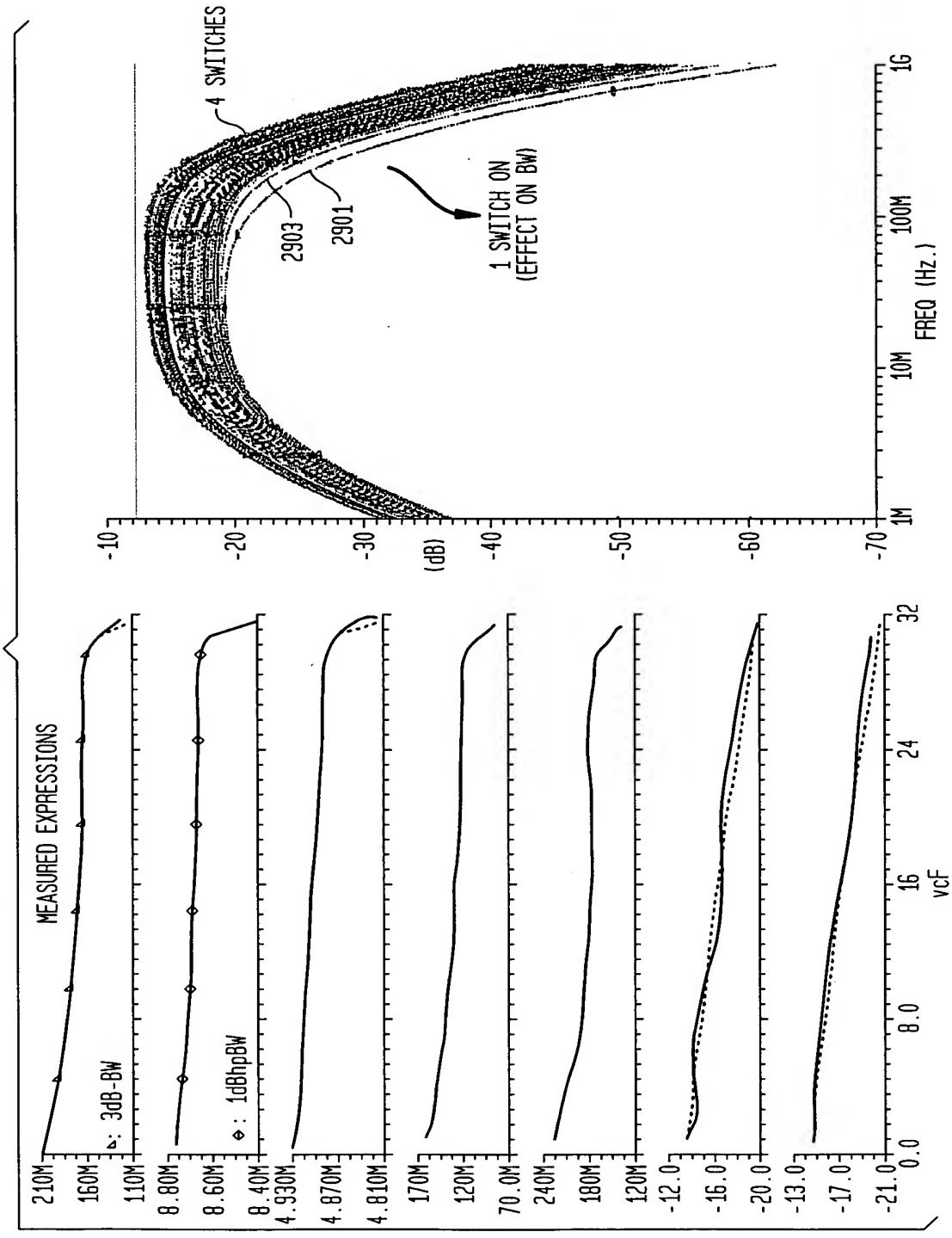
FIG. 29



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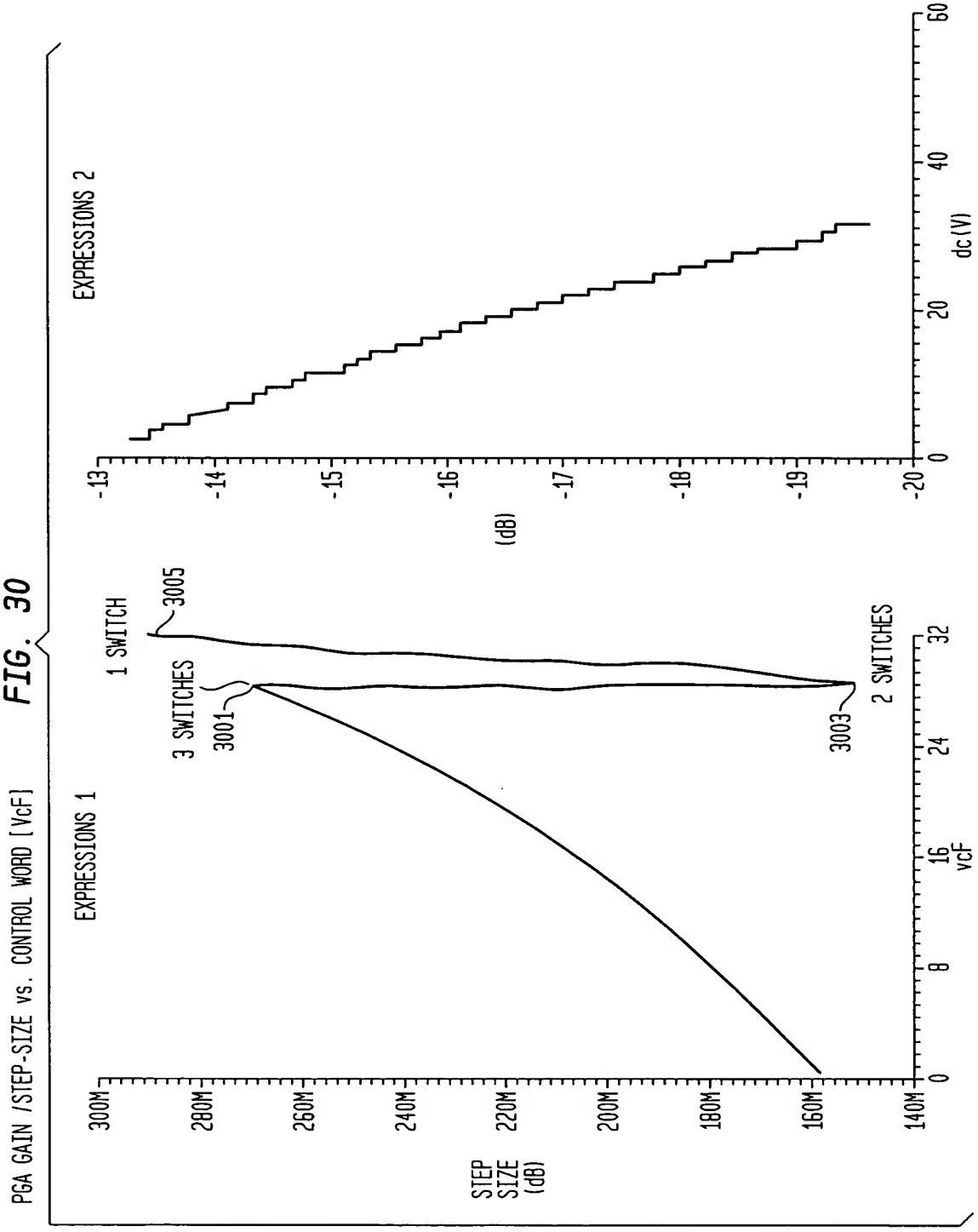

FIG. 30

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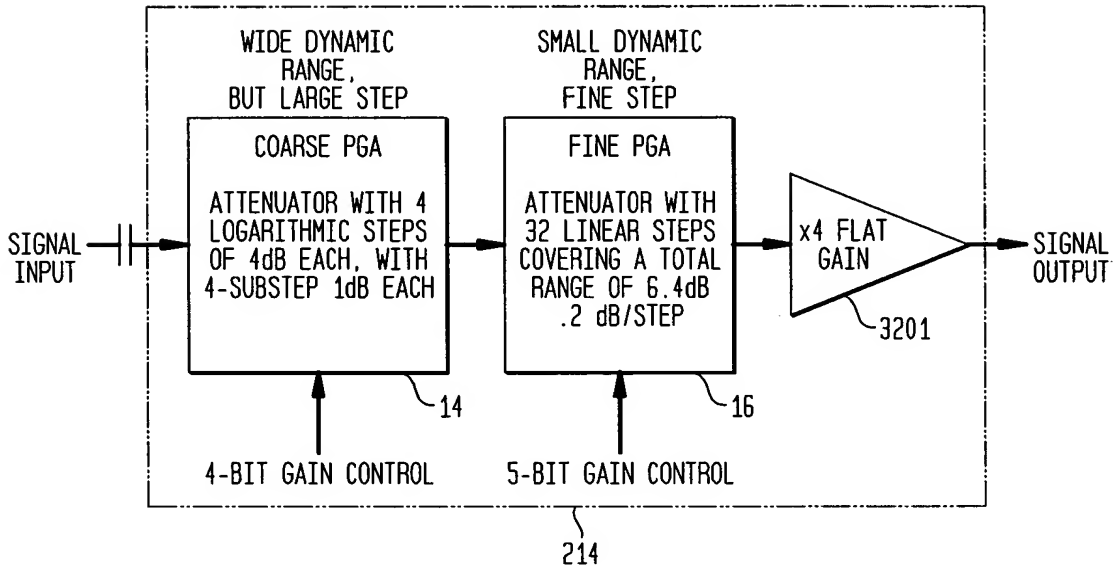
FIG. 31

PROGRAMMABLE GAIN AMPLIFIER (PGA)



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Inventor: Arya Reza Behzad; Tel: 202/371-2600
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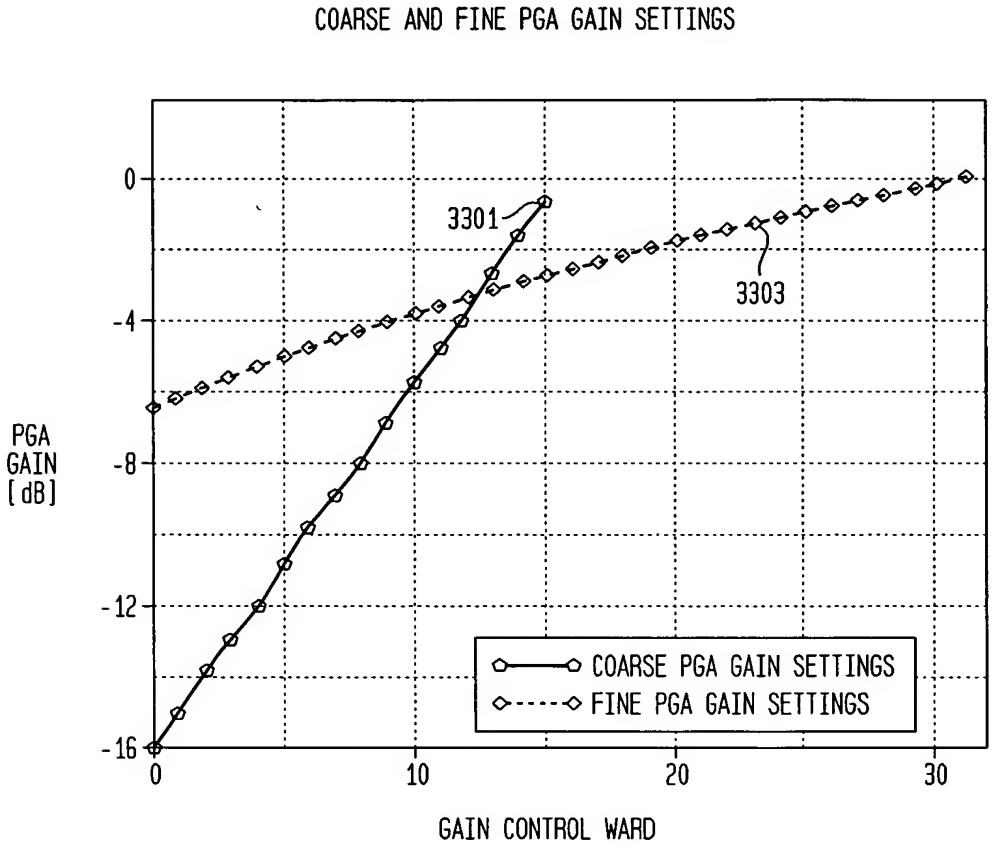
FIG. 32



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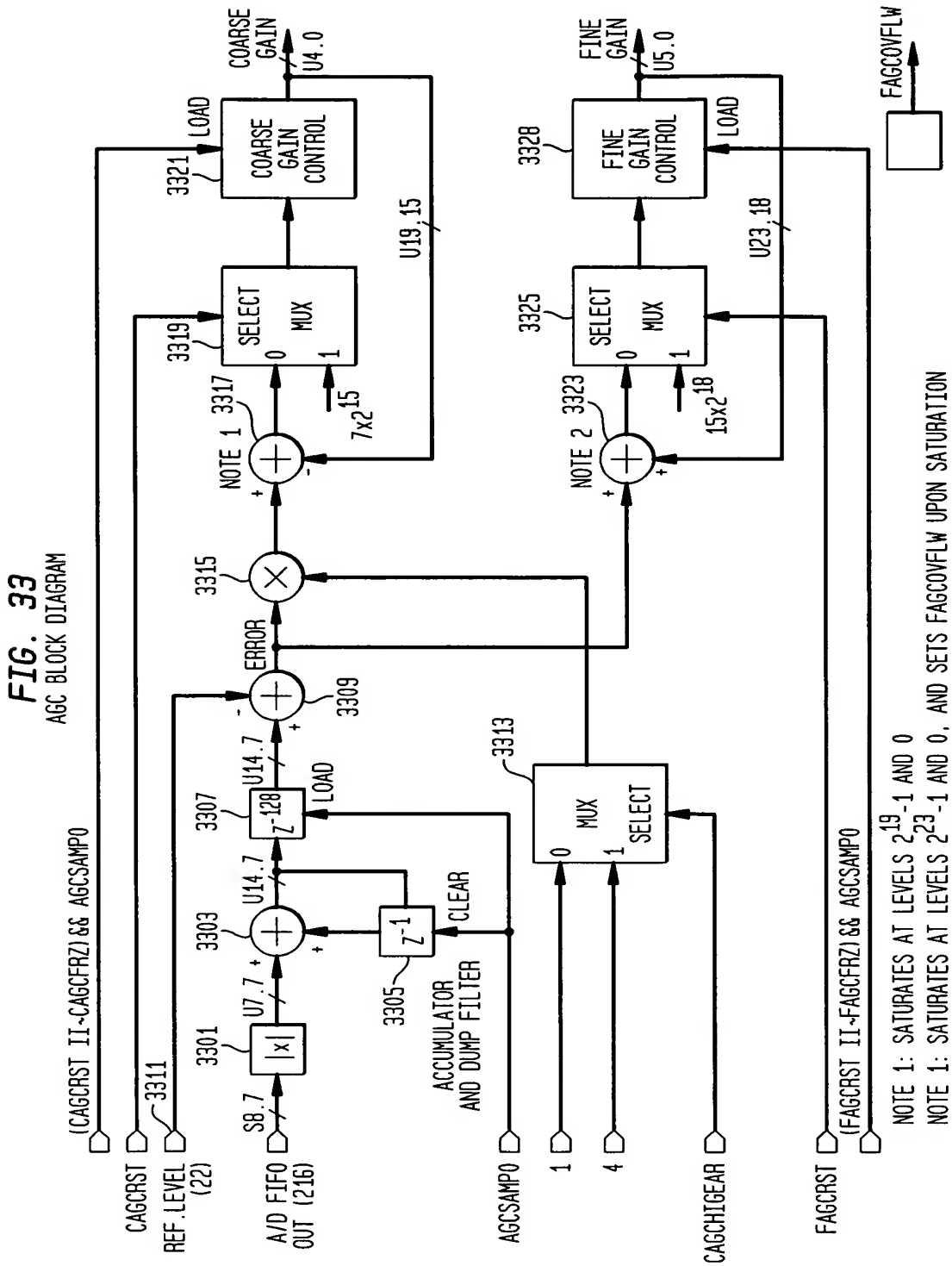

FIG. 33
AGC BLOCK DIAGRAM

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FIG. 34

PEAK TO RMS RATIOS FOR 100Base-TX AND GIGABIT

CABLE LENGTH [m]	100Base TX	GIGABIT, 100 OHM	GIGABIT, 85 OHM	GIGABIT, 115 OHM
0	3.691281	4.193192	4.193192	4.193192
20	3.806628	4.501316	4.362110	4.291369
40	3.877284	4.528136	4.457336	4.429949
60	3.894216	4.733644	4.695307	4.646305
80	4.055372	4.878569	4.847844	4.810019
100	4.225522	4.983545	4.991296	4.968900
120	4.357733	5.134131	5.194401	5.154263
140	4.556012	5.266919	5.380943	5.366309
160	4.764462	-	-	-

TARGET E{|x|} = A/D CLIPPING LEVEL x (E{|x|}/RMS) / (PEAK/RMS)
=127 x 0.7979/5.2 = 20